

COTTON REGION REPORTS.

In the following table are given the means of the maximum and minimum temperatures and the average rainfall for the cotton districts during the month of August. For the purpose of comparison, the averages for these districts during the four preceding years are also given. The rainfall, as compared with the averages of four years, is excessive in the districts of Wilmington, Memphis, Montgomery, Augusta, and Mobile; it is about normal in the districts of Atlanta and Galveston; in the other districts it is deficient. The mean of the minimum temperatures is above the average in all districts; the mean of the maximum temperature shows only slight departures from the normal.

Temperature and rainfall data for the cotton districts, August.

Districts.	Rainfall.			Temperature.								Extremes for Aug., 1886.	
	Average for August of four preceding years.		Average for August, 1886.	Departures.	Maximum.		Minimum.						
					Mean for Aug. of four pre- ceding years.	Mean for Aug., 1886.	Departures.	Mean for Aug. of four pre- ceding years.	Mean for Aug., 1886.	Departures.			
Inch.	Inch.	Inch.	°.	°.	°.	°.	°.	°.	°.	°.	°.	Max.	Min.
New Orleans.....	4.15	2.69	-1.46	91.1	92.7	+1.6	71.2	71.4	+0.2	102	50		
Savannah.....	5.74	5.24	-0.50	90.8	90.7	-0.1	71.3	72.4	+1.1	106	60		
Charleston.....	7.30	4.16	-3.14	89.6	88.8	-0.8	69.0	69.5	+0.5	100	43		
Atlanta.....	4.60	4.52	-0.08	87.9	88.4	+0.5	67.4	68.9	+1.5	100	57		
Wilmington.....	4.25	7.42	+3.17	88.2	87.4	-0.8	67.3	68.7	+1.4	100	55		
Memphis.....	2.64	3.89	+1.25	88.6	89.2	+0.6	65.0	68.2	+3.2	102	44		
Galveston.....	2.32	2.59	+0.27	94.0	95.0	+1.0	70.5	73.1	+2.6	108	55		
Vicksburg.....	3.13	2.32	-0.81	90.8	92.4	+1.6	69.1	71.6	+2.5	100	61		
Montgomery.....	3.34	4.57	+1.23	90.4	90.2	-0.2	68.2	69.7	+1.5	104	52		
Augusta.....	3.81	4.52	+0.71	90.2	88.9	-1.3	67.9	69.3	+1.4	101	58		
Little Rock.....	2.45	2.05	-0.40	90.7	92.7	+2.0	65.7	68.9	+3.2	111	49		
Mobile.....	2.95	3.44	+0.49	92.2	91.2	-1.0	69.4	70.3	+0.9	104	60		

NAVIGATION.

STAGE OF WATER IN RIVERS.

In the following table are shown the danger-points at the various river stations; the highest and lowest depths for August, 1886, with the dates of occurrence, and the monthly ranges:

Heights of rivers above low-water mark, August, 1886.

[Expressed in feet and tenths.]

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Date.	Height.	Date.	Height.	
<i>Red River:</i>						
Shreveport, Louisiana.....	29.9	17, 18	3.3	11, 12	-0.8	4.1
<i>Arkansas River:</i>						
Fort Smith, Arkansas.....	22.0	9	13.7	31	2.7	11.0
Little Rock, Arkansas.....	23.0					
<i>Missouri River:</i>						
Yankton, Dakota.....	24.0	5, 6	20.1	29, 30, 31	18.1	2.0
Omaha, Nebraska.....	18.0	11, 12, 13	9.2	31	8.0	1.2
Leavenworth, Kansas.....	20.0	11	9.8	30, 31	7.0	2.8
<i>Mississippi River:</i>						
Saint Paul, Minnesota.....	14.5	2, 23	2.5	15	1.2	1.3
La Crosse, Wisconsin.....	24.0	27	4.6	14, 15, 18, 19	2.3	2.3
Dubuque, Iowa.....	16.0	31	4.6	16, 17, 18, 21, 22, 23	2.0	2.6
Davenport, Iowa.....	15.0	31	2.4	17 to 27	1.0	1.4
Keokuk, Iowa.....	14.0	14	2.6	21, 22, 23, 26, 27	1.0	1.6
<i>Saint Louis, Missouri:</i>						
Saint Louis, Missouri.....	32.0	18	9.3	31	6.3	3.0
Cairo, Illinois.....	40.0	11	11.8	22	9.4	2.4
Memphis, Tennessee.....	34.0	2	10.0	23, 24	7.8	2.2
Vicksburg, Mississippi.....	41.0	1	13.5	28	7.9	5.6
New Orleans, Louisiana.....	13.0	1	4.8	16, 31	3.2	1.6
<i>Ohio River:</i>						
Pittsburg, Pennsylvania.....	22.0	18	7.7	30	0.3	7.4
Cincinnati, Ohio.....	50.0	24	13.7	31	7.0	6.7
Louisville, Kentucky.....	25.0	19	7.3	17	4.5	2.8
<i>Cumberland River:</i>						
Nashville, Tennessee.....	40.0	7	10.9	1	2.7	8.2
<i>Tennessee River:</i>						
Chattanooga, Tennessee.....	33.0	8	7.1	30, 31	3.5	3.6
<i>Monongahela River:</i>						
Pittsburg, Pennsylvania.....	29.0	18	7.7	30	0.3	7.4
<i>Savannah River:</i>						
Augusta, Georgia.....	32.0	20	11.4	24	7.1	4.3
<i>Mobile River:</i>						
Mobile, Alabama.....		28	18.4	7	16.7	1.7
<i>Sacramento River:</i>						
Red Bluff, California.....		1 to 10	2.0	31	0.6	1.4
Sacramento, California.....		1	10.0	27 to 30	8.2	1.8
<i>Willamette River:</i>						
Portland, Oregon.....		1	7.5	27	2.6	4.9
<i>Colorado River:</i>						
Yuma, Arizona.....		27	16.8	14	16.1	0.7

FLOODS.

Yuma, Arizona: on the 1st light rain fell during the greater part of the day. The wind which at 7 a. m. was blowing gently from the south backed to the southeast and increased in force until at 12.15 p. m. it attained a velocity of thirty-four miles per hour. Seventy-five miles west of Yuma the rain was heavy, causing a washout on the Southern Pacific Railroad and delaying trains. On the 15th a thunder-storm began at 10.55 a. m. and continued until 4.30 p. m. During this storm 1.57 inches of rain fell, 0.80 inch falling in twenty minutes, from 2.40 to 3 p. m.; this is the largest rainfall that has occurred since the Signal Service station was established here (1876). The track of the Southern Pacific Railroad was washed out both east and west of Yuma, causing an entire suspension of traffic for several days. On the 27th heavy rain fell in the mountains east of Yuma, producing floods and destructive washouts which delayed trains.

Colorado Springs, Colorado: at 3 p. m. of the 1st very dark and threatening clouds were noticed hanging over the country north of the town, some of these were similar to tornado clouds, being funnel-shaped. Shortly after 3 p. m. very heavy rains set in and being confined within the narrow valley of Monument Creek caused a sudden and destructive freshet. At 6 p. m. the flood suddenly poured into the town, carrying away fences, bridges, and several buildings. Along Monument Creek and Shook's Run thousands of dollars worth of property in bridges and roads were destroyed. The storm was accompanied by unusually heavy hail; above the town on the following day hail still covered the ground to a depth of four inches on an average, in some places it had drifted four feet deep. Large patches of hail from one to three feet deep were deposited along the track of the flood. Trees were denuded of leaves and small branches as well as considerable bark.

Little Rock, Arkansas: during the afternoon and night of the 1st a severe thunder-storm prevailed, beginning at 4.40 p. m., with moderately heavy rain until 8.50 p. m.; at this time very heavy rain set in, and in one hour and ten minutes 2.60 inches had fallen. In consequence of this unusually large rainfall the streets were flooded and property was damaged to the extent of \$25,000. Many stores on Main street were filled with water to the depth of eighteen inches.

HIGH TIDES.

Smithville, North Carolina, 26th, 27th, 28th; Cedar Keys, Florida, 18th.

ATMOSPHERIC ELECTRICITY.

AURORAS.

Mount Washington, New Hampshire: at 8.08 p. m. of the 23d an auroral light was observed in the northwest and north. Stratus clouds were banked in the north, obscuring the arch; from behind the clouds bright streamers rose to an altitude of 80°, converging near the zenith. At 8.15 p. m. a bright band of light, elliptical in form, extended across the sky. This band moved slowly across the zenith at 8.32 p. m., after which it began to fade, and disappeared at 9.10 p. m. The aurora proper rapidly increased in brilliancy and extent, at 9.10 p. m. extending from west-northwest to east 10° north. The streamers were unusually narrow but clearly defined and very brilliant. At the time of maximum brilliancy, 9.10 p. m., a lateral motion from west to east was seen. The aurora disappeared at 1.30 a. m. of the 24th.

Washington City: a fine aurora was visible during the evening of the 23d. The first light noted was at 8.15 p. m., and consisted of a patch of greenish light in the north-northeast, near the horizon. This light seemed to spread east and west, in a few minutes the horizon, 30° either side of north, was illuminated by the light. The highest point above the horizon was not more than 15°. At 8.22 p. m. there was a sudden brightening, the light forming an arch, and was accompanied by streamers, which, in some instances, reached an altitude of 45°. This appearance gradually died away, to be succeeded at 8.26 by the same. The moments of brightening and display